S 1.8 S58s

DECEMBER 1942

SOIL CONSERVATION

OFFICIAL ORGAN OF THE SOIL CONSERVATION SERVICE

Bert Robinson quotes the Vice President on the world's post-war agricultural needs, opportunities, and ideals...Page 127

Peanuts are an important war crop, and Tom Buie discusses conservation problems involved in their production...Page 123

UNITED STATES DEPARTMENT OF AGRICULTURE – WASHINGTON

Contents

Page

RUNNING PEANUTS, A PRESSING CONSERVATION PROBLEM:
By T. S. Buie 123

"THE SHAPE OF A BETTER WORLD" Seen in LAND Meetings at Louisville and Memphis:
By Bert D. Robinson 127

COWPOWER SOLVED HIS PROBLEM:
By A. T. Semple 132

CHRISTMAS TREE FARMING:
By Weston Donehower and D. J. Sacco 134

ONCE GULLIED FARM NOW A MONEY MAKER:
By E. B. Garrett 134

GRASS ROOTS CONSERVATION TRAINING OF AAA COMMITTEEMEN:
By Arthur W. Susott 137

HOW MAGAZINE DISTRICT MAINTAINS EQUIPMENT:
By Harold J. Butler 141

BOOK REVIEWS AND ABSTRACTS:
By Phoebe O'Neall Faris 142

FOR REFERENCE:
Compiled by Etta G. Rogers 143

WELLINGTON BRICK
EDITOR

SOIL CONSERVATION is issued monthly by SOIL CONSERVATION SERVICE of the United States Department of Agriculture, Washington, D. C. The matter contained herein is published by direction of the Secretary of Agriculture as administrative information required for proper transaction of the public business, with the approval of the Director of the Budget. SOIL CONSERVATION seeks to supply to workers of the Department of Agriculture engaged in soil conservation activities, information of special help to them in the performance of their duties. Copies may also be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C., 10 cents a copy, or by subscription at the rate of $1.00 per year, domestic; $1.50 per year, foreign. Postage stamps will not be accepted in payment.

SOIL CONSERVATION

CLAUDE R. WICKARD
SECRETARY OF AGRICULTURE

HUGH H. BENNETT
CHIEF, SOIL CONSERVATION SERVICE

VOL. VIII • NO. 6 ISSUED MONTHLY BY THE SOIL CONSERVATION SERVICE, DEPARTMENT OF AGRICULTURE, WASHINGTON DEC. • 1942

RUNNER PEANUTS, A PRESSING CONSERVATION PROBLEM

BY T. S. BUIE[1]

It looked as if another of those afternoon thundershowers was making up in the west, but across the field of green peanut vines on Patterson's farm, a bright sun was shining from the Florida sky. In spite of the assurance of the sun, the Negro crew stacking peanuts at the far end of the field was working in silence—getting a crop of peanuts harvested this year was too serious a business for the song and laughter that ordinarily is a part of the harvest season. On this day too the call, "Water Boy!" that usually rings out with the deep, melodious note of a song, came from across the field with a high-pitched sound, as if it might have come from the throat of a girl. And so it did, as it turned out, for the crew of 19 workers was composed mainly of young boys, girls, and older women. They were brought each day to the farm from small towns as far away as 30 miles, Foreman C. B. Williams told us.

Stacking peanuts in the Holmes Creek soil conservation district in Florida.

A short time before at his hardware store in Graceville E. D. Patterson, chairman of the board of supervisors of the Holmes Creek Soil Conservation District, had explained some of the difficulties of getting peanuts harvested with inexperienced "town" labor. To make matters worse it had "rained all the year," and with the ground still wet a side-delivery rake was useless for shaking the soil from the vines. Thus shaking as well as stacking was being done entirely with hand labor. But the peanuts had to be harvested, he added, and they were going to get the job done.

Out in the field where the crew was working, Foreman Williams explained that he left the farm in a truck every morning about 1 o'clock to pick up his workers at their homes and got back to the farm around 6:30 a. m., when the field work began. At 5:30 in the afternoon he left with his crew for the return trip and usually got back to the farm at about 10 p. m. for a couple of hours' sleep before starting out again. In spite of this, he, like Patterson, was confident that they would get the peanuts harvested, and he expected to make 35 tons on the 40-acre field where the crew was working.

Throughout the runner peanut section of southern Georgia, southern Alabama, and northern Florida, this same determination among farmers to get the job done was evident this fall, in spite of many serious problems brought

[1] Regional conservator, Southeastern Region, Soil Conservation Service, Spartanburg, S. C.

492019—42

A side delivery rake saves considerable time and labor in harvesting peanuts.

about by the increased production of peanuts to meet war needs. There is no doubt, however, that some growers were unable to harvest all the peanuts they planted; and many who increased their acreage this year were discouraged by the difficulties they encountered.

"I've heard a lot of people say that they are not going to plant any peanuts next year," commented George B. Mock, chairman of the board of supervisors of the Flint River Soil Conservation District in Georgia. "But I know these people here pretty well and I think they are going to do all that is humanly possible to get the crop harvested this year and plant the extra acreage we are going to need next year, too. If peanuts are needed to win the war, we've got to get the job done somehow."

As was the case with many other crops this year, the scarcity of labor was the principal difficulty in peanut production, and it is likely to be more serious next year. But peanuts have many peculiar problems of their own, nearly all of which were intensified by the greatly increased acreage needed in the war production program.

Any farmer who has grown a crop of market peanuts will tell you that the crop is extremely "hard on the land." The explanation is simple: When peanuts are dug, the vines which are used for hay are removed from the land as well as the nuts; thus this crop not only exhausts the organic matter and plant food in the soil, but leaves the ground entirely bare of cover except for any late weeds that may come in after the crop has been harvested.

In the runner peanut section, the tendency has been to produce peanuts and hogs together and let the hogs harvest a portion of the crop. This is not nearly as hard on the soil as the practice of digging the peanuts because the vines are left on the land. Nearly all producers of harvested peanuts plant enough additional acreage to fatten their hogs by "hogging-off" this portion of the crop.

Runner peanuts are pretty well harvested by October 1 and there would be plenty of time to get a winter cover crop planted after that, except for another complication. A good portion of the counties in the runner peanut section of Georgia and Florida have no stock law and the common practice is to fence in the cropland and let the stock range over the countryside. After crops are harvested, the stock are turned into the fields to forage on weeds, stalks, and other crop residue during the fall and winter months. Naturally, the livestock damage any cover crops that may be planted after peanuts are dug.

The fenced area includes the peanuts for hogging-off as well as the harvested acreage. When pea-

Sam Williams examining a stack of Spanish peanuts on his farm in the Wiregrass soil conservation district in Alabama.

Threshing runner peanuts with a peanut picker in Flint River soil conservation district in Georgia.

nuts are harvested, it is impossible to get all the peanuts in the digging operation, and after the hogs have cleaned up the peanuts planted for hogging they turn their attention to the harvested acreage with typical porcine thoroughness. Hogs can do an excellent job of salvaging, thus eliminating a good deal of waste in peanut production and adding a lot of fat to the hogs; but this salvaging process also creates a difficult problem in the establishment of winter cover after harvested peanuts.

Cross fencing would enable the period of hogging and gleaning to be limited, so that winter cover crops could be planted at the proper time and become established without danger of being destroyed by the hogs rooting in the soil for peanuts left in harvesting. Unfortunately, very little cross fencing is in existence in this area, and farmers will readily point out that they can't get fence material now on account of the war even if they could afford the cost.

Some growers in this section plant Spanish peanuts, and where this variety is used the problem of cover crops after peanuts is greatly simplified. Spanish peanuts mature about a month earlier than runners, and they must be harvested at once since they sprout quickly after reaching maturity. Whatever gleaning is done is over within two weeks after harvest, so that the planting of winter cover crops is not complicated by grazing.

Because Spanish peanuts mature earlier they are less subject to damage by the velvetbean worm—a factor that presented another serious problem this autumn on late harvested runner peanuts. A heavy infestation of these worms will destroy the leaves on peanut vines in short order and ruin the vines for hay. When defoliation is severe, the small stems by which the nuts are attached to the vines will rot so that the peanuts are left in the ground when the vines are harvested.

Growers in the runner peanut section have a number of objections to Spanish peanuts. They are more familiar with runners and have their own supply of seed of this variety on hand. Spanish peanuts bring a better price per ton when sold for oil, but farmers say they can get more for runners in the long run because they get better yields per acre.

The principal objection to the Spanish variety in this area, however, is that Spanish peanuts and cotton mature at the same time and both are important crops. As C. B.

Hyman, of the Holmes Creek district expresses it, "It doubles up on a man to have Spanish peanuts and cotton, because both come off about the same time. With the labor situation what it is, that is a real consideration."

Contour farming is extremely important on land where peanuts are dug, because the bare, loose soil left after digging is subject to severe damage by erosion during heavy winter rains. Although a good part of the land in the runner peanut section has been terraced and is farmed on the contour, a considerable number of farmers still follow the old practice of planting and cultivating their crops in straight rows. In soil conservation districts, contour tillage is being adopted. Terraces are commonly used as guides for contour tillage on sloping land.

Soil Conservation Service workers recognize the problems involved in peanut production, particularly with reference to conserving the soil during a tremendous increase in production of a crop that is notably hard on the land. They have accepted these problems as both a responsibility and an opportunity, and they are carrying out an extensive system of field studies to work out solutions for the problems in cooperation with four soil conservation districts in the runner peanut section. Experiment station workers were called into consultation to assist in developing plans for field studies.

Since erosion control and maintenance of soil fertility are the primary objectives of these studies, types of vegetation that will reduce erosion losses and add organic matter to the soil are receiving first consideration. Major emphasis in these studies is being placed on determining the influence of certain winter and summer cover crops on the yields of peanuts and the problems involved in establishing cover crops after peanuts are harvested, especially where peanuts must follow peanuts in the rotation in 1943.

Farmers are actively cooperating in these studies which, to reduce labor requirements, are being conducted on a field rather than a plot basis. Service technicians assisted farmers in getting yield records this fall where peanuts followed crotalaria, oats that was grazed and turned or disked, oats harvested for grain, blue lupine harvested for seed, hogged peanuts, corn interplanted with summer legumes, cotton, and dug peanuts.

The establishment of winter cover after harvested peanuts is being studied under a wide variety of conditions. In some of the studies small grain, ryegrass, winter legumes, and mixtures of small grain or ryegrass and winter legumes were sown immediately before peanuts were harvested so that the seed would be covered by the plowing required in digging. In other studies grain and winter legumes were drilled in at normal planting times after peanuts were harvested. Careful observations are being made of the damage done to the winter cover where the fields are gleaned by hogs.

Similar observations are being made in a number of other types of field studies where small grain and blue lupine were used. In some of these, oats or blue lupine was drilled in each peanut middle at various planting rates. In others, small grain and fertilizer, broadcast following harvested peanuts, were covered by disking and blue lupine was drilled in 18-inch rows immediately after.

Other fields where peanuts were dug were divided into three sections, one of which was left bare, a second planted to oats, and the third to blue lupine. One-half of each of the oat and blue lupine sections will be disked next spring while the plants are green and planted to peanuts. The other half will be interplanted with peanuts, and the oats or lupine seed will be harvested with a combine when they mature. The bare section also will be planted to peanuts, and yields on all three sections will be recorded.

The value of leaving peanut vines on the land is also being studied by spreading the vines back on the land in one section of a field after picking, leaving another section bare, and then following with peanuts on both areas. Several different types of rotations with peanuts are being included in the field studies. Poor, sandy lands, as well as better soils, are being used.

The district set-up affords an excellent opportunity for carrying out these studies. In work units where a large number of field studies are under way additional aides have been assigned to assist farmers in making observations and gathering accurate data. District supervisors are giving active assistance in carrying out the studies. Seed patches established on farms as a part of the district program have furnished home-grown seed of adapted winter legumes for use in the field studies.

Within the last few years blue lupine, a winter legume that produces a large amount of easily harvested seed, has become an important winter cover crop throughout the runner peanut section. It is unpalatable to livestock and is used solely for soil protection and soil improvement. The regional agronomy division of the Service has encouraged planning technicians to include seed patches of blue lupine in conservation plans on district farms.

Farmers in Henry County, Ala., in the Wiregrass Soil Conservation District, until a few years ago were spending $75,000 to $100,000 a year for vetch and Austrian winter pea seed, according to C. F. Reynolds, district supervisor. Impressed with the seed-producing possibilities of blue lupine he made a trip to the Florida Experiment Station at Quincy, Fla., in September 1940 and brought back a ton of blue lupine seed, which was distributed to district farmers throughout the county for establishing seed patches.

(Continued on p. 140)

"The shape of a better world" seen in Land meetings at Louisville and Memphis

By Bert D. Robinson [1]

"Of the billion people in the lands of our neighbors to the South and in Asia, 80 percent live on the land. The farms in China and in much of Latin America average less than 5 acres. Less than 20 percent of the people can read or write, and their income is less than $100 a year per family. They are scourged by diseases and bitter hardships . . .

"In the last 10 years we have turned an about-face in this country and are making at least a start toward undoing the terrific waste as a result of bad farm practices of the 70 years that went before.

"If we share everything we learn with our neighbors to the south and across the Pacific, we shall see the shape of a better world."

THIS hope for a common brotherhood resulting from mutual help in providing for better use of the land and in improving human standards was voiced by Vice President Henry A. Wallace on October 17 as he spoke on "A Billion People" at the Louisville, Ky., meeting of the Friends of the Land. His subject had special reference to the agricultural populations of Latin America and the teeming Asiatic lands.

"Already North and South America are beginning to work together in the field of farm research and better methods," the Vice President said. He pointed with pride to the recent establishment of an Institute of Tropical Agriculture by the Pan-American Union as a means of improving tropical agriculture and bringing the peoples of North and South America into closer and mutually profitable working relationships.

As another example of close cooperation with other friendly nations, the Vice President cited the assistance the United States is giving China in its food production program. Dr. Walter C. Lowdermilk, Assistant Chief of the Soil Conservation Service, the Vice President said, has left for China at the latter's request to help that Government establish a soil and water conservation program to ensure greater food production.

LOUISVILLE: Vice President Henry A. Wallace trades comments with Mrs. Luis Francke, conservation chairman of the Garden Club of America. Seated between them is Dr. Charles E. Holzer, president of Friends. To the left are Governor Keen Johnson of Kentucky and Mayor Wilson W. Wyatt of Louisville.

Throughout his address Vice President Wallace emphasized that the United States stands to benefit immensely from the experience other nations have had in dealing with agricultural problems. China undoubtedly has, he pointed out, in its long battle against erosion evolved a number of practical control methods that would benefit American agriculture.

Other nations, too, the Vice President continued, can help in this mutual undertaking for an improved agriculture. Canada and Australia can help, and the British and the Dutch with their long experience in tropical agriculture certainly can help farmers living in tropical countries, he added.

At both the Louisville and Memphis meetings of the Friends of the Land, the latter being held a week earlier, on October 12, attention was focused on possibilities that mutual assistance in soil and water conservation programs offer for fostering the good neighbor policy. A group of nine Central and South Americans, representing their agricultural departments or colleges, attended both meetings. They are the first of a group of 30 scheduled to study soil conservation methods being practiced in the United States. William X. Hull, of the Soil Conservation Service, who is conducting the initial group through the South, described the men as the most "eager" he had ever seen. At both meetings

[1] Associate information specialist, Soil Conservation Service, Spartanburg, S. C.

LOUISVILLE: Robert C. Tway, farmer and dairyman, right, swaps conservation ideas with three fellow Kentuckians. Left to right—Jim Bates, Jr., farmer and deputy administrator of Treasury's war savings staff; Governor Keen Johnson; Dean Thomas P. Cooper, director of the Kentucky Agricultural Extension Service.

of the Friends of the Land they mingled freely with others in the audience, exchanging information with farmers, lawyers, educators, industrialists, editors, and agricultural workers. More than 350 persons attended the Memphis meeting and 325 the meeting at Louisville.

Louis Bromfield, novelist and vice president of the Friends of the Land, declared at the Louisville meeting that the present war is a revolution, "the end of the happy-go-lucky, pilfering, wasting days" growing out of the devastation of the world's bounty.

"Our tradition," said Mr. Bromfield, "has been a wasteful one in this country. The average tradition of the American farmer, of the manufacturer, the average citizen, has not been a good one, an honorable one or a wise one. The condition of the American farmer can best be illustrated by the kind of farmer who began in Pennsylvania and ruined a farm there, went to Indiana and ruined another farm. By that time his son went to Iowa and ruined one there and his son or grandson ruined one in Washington or Oregon. And now there isn't any more land. And because there isn't any more not only the farmer but every one of us has to take care of what we have."

At the Memphis meeting of the Friends of the Land Mr. Bromfield spoke about his native Ohio. His State, he said, has an ideal marriage between industry and agriculture. It has farm upon farm, broad and sweeping, and yet it has Cleveland, Cincinnati, Columbus, Toledo, Akron, and Youngstown.

"Yet, with all its wonders, Ohio lies in danger of decay," Mr. Bromfield asserted. "Its water table has dropped and one of the greatest States in the union is in danger of collapsing from thirst. The industrialist and the farmer have stripped Ohio's soil of all chance to catch the rain water. Every year 40 to 50 percent of our water runs down the Ohio into the Mississippi, and into the Gulf of Mexico. Along with that water go tons and tons of good soil.

"Industry in Ohio is in danger of an acute water shortage. Last year the great mills of Youngstown were within 2 weeks of shutting down because of lack of water. This year these same mills were within 24 hours of shutting down, defense or no defense, because of flood."

In the Mill Creek Valley area around Cincinnati there is also a water shortage, Mr. Bromfield said. One of the greatest industries, he continued, must soon leave if nothing is done. Recently a member of the board of directors of this industry, Mr. Bromfield learned, made the statement that there was no use to discuss further expansion in the Mill Creek Valley area because of the water shortage.

"Why did this happen?" Mr. Bromfield asked. "Is there any less rain in Ohio now than there was 150 years ago?"

"No," said Mr. Bromfield, "there is no less rainfall in Ohio now than 150 years ago. The answer lies in the fact that the land has been stripped, the forests cut down, and the fields left bare. There is little in Ohio now to catch the water to make it stay."

"We must win the battle of production on the farms of America as well as in our war industries," Dr. H. H. Bennett, Chief of the Soil Conservation Service, told the Friends at their Memphis meeting. Chief Bennett also was scheduled to address the Louisville meeting, but flood waters from the Potomac spreading through parts of Washington, D. C., interrupted his plans.

"We can win the war and still lose the peace in the years to come on the soil of America," Chief Bennett told his audience. "We could do this if we mined the land to get our vital war production, and gave no thought to the obvious fact that we'll need the land just as much after the war as before—perhaps even more."

Dr. Bennett said it is just as essential to keep our crop production facilities in good working order—to maintain them to carry the maximum load—as it is to keep the equipment in the airplane factories and tank arsenals in good condition.

"We simply must be true 'friends of the land' if we want the land to be a friend to us—if we want it to keep on producing the crops we need to fight and win the war.

"If we figure that we will similarly have to keep up big production for 5 or 10 years after the war until the world gets on its feet again, the tremendous burden upon our land becomes obvious. And the responsibility of American farmers to keep that soil productive and producing becomes equally obvious.

"Within 5 years more than 2 million farmers in 42 states of the Union have on their own volition set up 793 legally constituted soil conservation districts, comprising approximately 463 million acres of land. Since these have been established, the Soil Conservation Service has cooperated with these districts, at the invitation of their democratically elected farmer supervisors. We have done everything in our power to help the districts with their action programs of conserving soil and rainfall, of using the land according to the capabilities of the land as scientifically determined, of protecting lowlands from deposition of poor subsoil material washed out of yawning hillside gullies, of draining water-logged areas of otherwise productive land, of protecting wildlife—and bringing security to those who till the soil and thus to the Nation.

MEMPHIS: Good neighbors from Central and South American countries with H. H. Bennett, chief of the Soil Conservation Service, and Louis Bromfield, novelist. Left to right—Casiano Hector Quevedo, Argentina; Gonzalo Pedro Andrade, Mexico; Jose S. Juaregui, El Salvador; Bennett; Alfredo Gustale Antonelli, Paraguay; Anthony Lespes, Haiti; Emilio Zamudio, Mexico; Humberto Ortega, Mexico; Bromfield; Ricardo Leon, Mexico; and Jaurier Francisco Garcia, Mexico.

MEMPHIS: Edward J. Meeman, editor of the Memphis Press Scimitar and C. W. Bailey, president of the First National Bank, Clarksville, Tenn., get together.

KNOXVILLE: Forty-eight to 50 bushels of corn per acre, but before conservation measures were adopted the field would not make over 5. That's what H. C. Lewis, Anderson County, Tenn., whose farm is a TVA unit test demonstration farm, tells the novelist Louis Bromfield.

"These soil conservation districts surely must like what has been done—and more has been done in them than I can tell you about now. Other agencies are helping, too; the extension services, the AAA, and other State and Federal agencies. It is of great significance, I think, that this, certainly the greatest land movement of all time in this country, has taken place so quickly. It has come about in a country where 10 years ago very few were interested in any aspect of the erosion problem; then, there was no general conception of the extent of the problem and not much knowledge about the physical aspects of the

492019—42——2

processes involved; and there was no national program of any kind for its control."

Also appearing at the Memphis meeting was Chester C. Davis, president of the Federal Reserve Bank of St. Louis, who declared, "unless we reverse the trends that have been ours since we started plowing up and destroying this land, we may be in the same situation that vast areas of China are in, where the great river flowing to the Yellow Sea is known as the River of Sorrows, and perhaps some day, unless we are more intelligent than my generation has been, the Gulf of Mexico may become the Yellow Sea."

"Latin America," continued Mr. Davis in referring to the group of nine men from Central and South America now studying soil conservation in the United States, "is represented at this meeting here today. That is fine because conservation of the land and of the water and forests can become a matter of international interest and international cooperation, and not simply a nation-by-nation movement."

John W. Apperson, of Memphis, in opening the Memphis meeting, read the following telegram from Secretary Wickard: "With every increased wartime demand being made on our farm land, the conservation of our soil and water resources becomes a problem of first importance. All power to your efforts."

Mayor Walter Chandler, of Memphis, welcomed those attending the meeting, and was followed by Russell Lord, editor of The Land.

"The City of Memphis," Mr. Lord said, "is as much a part of the land as a finger is a part of the hand; it is all one. There is a definite relationship. You see it between soil, lean cattle, children with thin legs. You have seen civilization breaking down in this United States. But since 1936 we have seen some miracles. We will bring the land up to bloom like the rose again."

Mr. Lord also gave a short talk at the Louisville meeting in which he declared that the South was making great headway in conservation. The new land pattern—contours, strip cropping, and other conservation measures—is becoming more and more evident, he said.

The morning session at Memphis was followed by a luncheon at which Frank R. Ahlgren, editor of the Memphis Commercial Appeal presided. After the luncheon, Mr. Bromfield spoke on "Land of Our Fathers." At the afternoon session, presided over by Editor Edward J. Meeman, editor of the Memphis Press-Scimitar, the listeners heard C. W. Bailey, of Clarksville Tenn., tell of the country banker's attitude toward conservation. Mr. Bailey related how farmers in the Clarksville area found their way back after the bottom had fallen out of their tobacco market. They found diversified farming and conservation the answer to their problems. "And I don't mind telling you," Mr. Bailey said, "that most of our mortgages are paid off now—many of them are paid off too quickly for the comfort of the banker."

James P. Pope, one of TVA's three directors, described the value of conservation and modern farming methods in the TVA area. Mr. Pope's talk was followed by a panel discussion of "The Fundamental Process for the Restoration and Conservation of Our National Resources." Discussion leaders were J. Charles Poe, Nashville, Conservation Commissioner of Tennessee; J. P. Chase, Shelby County, Tenn.; T. C. Potts, Crenshaw, Miss.; Mrs. Luis Francke, Long Island, N. Y., conservation chairman, The Garden Club of America, and Dr. Norman Frost, of Peabody College, Nashville, Tenn.

On October 11, the day before the opening of the Memphis meeting, the Friends sponsored a tour of the Shelby County Penal Farm where conservation measures have been effectively applied on soil that erodes easily. After the main meeting, a group made a field trip through TVA territory where benefits from conservation farming were plainly evident.

The panel discussion at the Louisville meeting pertained to natural resources in war and peace. Col. Richard Lieber, former conservation commissioner of Indiana, and creator of the Indiana State park system, was the panel leader. Others who participated in the discussion were: Dean Thomas P. Cooper, director of the Kentucky Agricultural Extension Service; Kenneth G. McConnell, Kentucky State forester; Mrs. Francke; Dr. T. S. Buie, conservator, Southeastern Region, Soil Conservation Service; H. S. Borden, supervisor of the Cumberland National Forest, Winchester, Ky.; Mrs. Kidwell Grannis, Flemingsburg, Ky., chairman, Kentucky Conservation Council, and Tom Wallace, editor, The Louisville Times.

Colonel Lieber in leading the panel discussion urged that conservation forces unite for an effective attack. "Piecemeal and sporadic activities of conservation," he said, "simply won't work."

Dr. Buie told the panel that conservation takes on greater significance in time of war as conservation farming helps increase or maintain yields by protecting or building up the soil's productivity.

"It is our obligation," he said, "to make each acre of land give its contribution no less than for every individual to do his part toward winning the war. Waste is sabotage. Waste is poor pa-

triotism at any time, but particularly so now."

Mrs. Grannis urged that conservation be made a subject for instruction in Kentucky public schools. "We have destroyed half of our natural resources in 300 years," she added, "and unless the trend changes we shall ourselves be destroyed."

"In 25 years of Federal farm loans," said A. G. Black, Governor of the Farm Credit Administration, "we have seen farms on which public money has been lent literally disappearing. We have seen them washed away. We have seen them blown away. We have seen communities wither as people are pushed from the land." In contrast, Governor Black pointed out that farmers who protect their land through conservation and better farming are better able to meet their loan payments and add to the Nation's stability.

Work of the Ohio Chamber of Commerce in conservation was described to the panel by William A. Mills, director of organizational relations of the Ohio Chamber of Commerce. He pointed out that the chamber was seeking legislation in his State to make it possible to issue credit on woodlands, "so the farmer won't have to cut down his trees to pay for schooling his children, for taxes, for other necessities, or for emergency needs."

NORRIS: During a tour of TVA territory, Mrs. Luis Francke, Long Island, N. Y., and Mrs. Albert E. Thornton, Atlanta, Ga., learn about the agricultural progress of the Wheat community near Norris, Tenn., from Mrs. W. E. Gallaher (right), wife of postmaster and farmer. Farming and living standards in the community have been improved through assistance from TVA. Mrs. Gallaher is one of the 12 trustees who help plan and direct affairs of the Wheat community of 81 farms, 107 families, 9,000 acres.

At the luncheon, Mayor Wilson W. Wyatt introduced Gov. Keen Johnson, the latter in turn presenting Vice President Wallace. Governor Johnson made a strong plea for a united conservation, and cited the progress Kentucky farmers themselves are making. He pointed out that farmers in his State since the enactment of the Kentucky soil conservation district law have formed 18 soil conservation districts, embracing more than 3 million acres.

Urging greater international cooperation for the development and establishment of better farming methods and improvement of human standards, Vice President Wallace in addressing the October 17 meeting of the Friends of the Land at Louisville, Ky., said:

"I know that bread cast upon the waters this way will return to us not after many days but in a remarkably short period of time in the form of a better world for all.

"It is not only Christian to be a good neighbor, but it pays to be a good neighbor."

COWPOWER SOLVED HIS PROBLEM

By A. T. SEMPLE[1]

John and Mary Brown had returned to their ribbon-bedecked patch on the aerial map of a rich Corn Belt county. Both were tired and a little discouraged. They had not talked much on the way home. Farm work had piled up and they wondered how they would ever get it done.

They had spent a busy afternoon in the county seat. Mary had delivered eggs and dressed chickens to several families, as had been her weekly custom for many years. A can of cream had been left at the Fair Valley Creamery on the way into town and the can picked up on the way home. They had taken a week's supply of beef and lamb, some frozen strawberries, peas and stringbeans from their cold storage locker. John had learned from the Agricultural Conservation office that he could substitute soybeans or other war crops on his allotted acres for wheat. He had tried the three hardware stores of the town before getting the nails and some other hardware he needed.

The prospects for getting a corn husker were not good even for next year, and he would have to wait 2 or 3 months to get the repairs he needed for his tractor and combine.

After the chores were done and they were eating supper, Mary tried two or three times to start the conversation which usually continued until they had covered the events of the day and made their plans for the morrow. Finally she ventured, "John, I know you are worried because Henry told you this morning that he can make four or five times as much working at the ordnance plant over at Johnsonville. Do you think he will quit before corn shucking is over?"

"Yes, I'm sure he will as soon as his month is up next week. I tried to tell him how much more it will cost to live and how crowded the school over there is, but it's no use. He thinks he can make enough in 2 years to buy a small farm. He hasn't figured if he can save enough."

"What are we going to do then?" Mary interposed. "I know you can't find another worthwhile hand anywhere. Of course you can count on me to help get the corn out, but we may be at it until Christmas."

"You're plucky, Mary, but I won't stand for that. You are doing more than your share now with the housework, the garden, the chickens, and nursing sick neighbors. There must be some other way. Perhaps Bill can get a week's furlough from camp, or the telephone company will let Dave off for a week or two. Then I could do the rest."

"But, John, that would only take care of this year's corn crop." Mary was always looking ahead. John worked hard from day to day and often found himself loaded with more than he could get done.

Just then the phone rang and Mary hurried to answer it. It was Sam Becker, their neighbor, who kept cattle in his feedlots the year 'round, and was now trying to break his records of the first World War in fattening beef for the Army. Mary listened for a moment and then turned to John. "It's Sam. He wants some corn—he's going to Kansas City for more feeders."

John picked up the phone. "Hello Sam. Still at it, are you?"

"Corn," said Sam. "Corn is what I want. How about selling me a thousand bushels? You've got more this year than your hogs can eat—"

"I'd like to, Sam," John broke in, "but I'm thinking of sealing it. The market looks low."

---

[1] Head, pasture section, agronomy division, Soil Conservation Service, Washington, D. C.

"I'll give you 3 cents over the Boonetown elevator price," said Sam urgently. "You take care of your land. You get good corn—"

John was thinking fast now. "I'll take elevator price if you'll take it out of the field," he offered with a grin on his face that Sam could not see.

"Only way I can do that is turn the steers in," was Sam's quick answer.

"It's a deal," said John as his grin broadened. "That is, it's a deal if you'll take them out when the ground is muddy."

"You know I'll do that. What kind of a farmer do you think I am! Well, so long, John. I'm starting for the yards tonight."

"Good luck, Sam. Of course you understand that I'll husk test rows and take the yield and that your hogs will clean up after the cattle."

John chuckled as he started to help Mary with the dishes. "We're short of manpower and horsepower, Mary, but we've got cowpower now," he remarked.

Mary was smiling, but she was looking ahead again. "You're smart to get the work done like that. I'll bet you'll be trying some such trick again next year. You will, won't you?" she challenged.

"Say, that's a good idea, Mary. But how are we going to plant and tend 80 acres of corn besides the oats and soybeans and hay, and raise all the chickens and hogs Claude Wickard wants besides? You know—"

"Now listen," Mary interrupted, "don't you remember what it says in our farm plan? Let me get it—" She thumbed through the desk compartments. It wasn't there. She looked at John accusingly. "What on earth did you do with it when Mr. Blalock, the SCS man, was here to help you lay out those contours?"

He looked around the room as though he hoped to see it hanging on the wall. "Oh, I remember. I put it behind the big clock!"

Soon they had their agreement with the Kickapoo Creek Soil Conservation District spread out on the dining room table.

"There, what did I tell you!" Mary was excited. "Under crop rotations it says 'On fields 1, 2, 3 and 4, a 4-year rotation of corn, corn, oats, red clover and alfalfa. On fields 5, 6, 7 and 8 the rotation should be corn, oats, wheat and clover.' It says, 'In an emergency, such as the failure of the red clover and alfalfa stand in the oats, the clover and alfalfa established the previous year should be left for another year to maintain the balance of crops.' Now John, we have a good stand of clover in the oats, but we're badly out of balance on labor. Why can't we leave this year's meadow another year for cow pasture instead of plowing it up for corn? Then we'd have one field of corn, one of oats and two of clover in this rotation. This war is certainly an emergency, and I've been hearing how they need more milk for drying. Let's use cows to do part of our work—I'm sure Mr. Blalock will agree. You have been wanting some more cows ever since we put in electricity and you bought that milking machine to keep Bill on the farm."

John was a little confused at all this rapid-fire planning. "I'll have a time getting enough cows to eat 40 acres of grass," he said dubiously. "But maybe Sam can get me a carload of heifers; and Fred Anderson has cows but never enough pasture—always wanting to rent some. And, Mary, there still will be more work than I can do—if we get more cows we'll have to put up more hay. . . . Fat from grass ought to do about as well as what we have to plow for . . . All this

(Continued on p. 140)

How the terminal is pruned.

CHRISTMAS TREE FARMING

BY WESTON DONEHOWER AND D. J. SACCO[1]

Very worth while for foresters is a visit to the 900-acre farm of 63-year-old Andrew Abraczinskas near Catawissa in Columbia County, Pennsylvania. Full of enthusiasm and wisdom born of 35 years of "learning something every day" in forestry practice, he has demonstrated that forestry pays. Today, after having developed a highly successful fruit-growing business amounting to a crop of 20,000 bushels of apples yearly, and supplemented by a yield of 20,000 bushels of potatoes from his cropland, he is turning to trees as his principal industry.

Mr. Abraczinskas' interest in trees and other woody vegetation dates back some 28 years when a spring from which he obtained water dried up following clear-cutting of a neighbor's woodland. To restore the spring, the adjoining land was purchased and replanted to trees. In a few years water again appeared at the spring hole and the planted acres gave promise of becoming an important economic producing unit of the farm. Additional land was purchased in the form of abandoned farm land—land

[1] Zone technician and junior forester, Northeastern Region, Soil Conservation Service.

(Continued on p. 136)

ONCE GULLIED FARM NOW A MONEY MAKER

BY E. B. GARRETT[1]

Amos Butler has stamped the victory pattern on his 74-acre farm near Reidsville, N. C. The new pattern ensures not only greater production of crops needed to win the war, but complete protection against erosion as well and a better living for the Butlers.

He bought the farm in 1932 after quitting his job as a shipping clerk. He found the farm badly run down; gullies were large and deep, and from most of the land the topsoil had been washed away. Today, however, few persons would recognize it as the same farm. All the cropland is terraced and strip cropped; all row crops are planted on the contour, and improved rotations, including grasses and legumes, are building up the productivity of the land. The gullies have disappeared and natural draws in the fields are now hay producing meadow strips. These conservation measures, Butler says, not only have held erosion in check; they have helped increase his crop yields and they make farming a pleasure instead of drudgery.

As might be expected, the first years on the run-down farm were disheartening to Butler and his young wife. Tobacco yields were low, and it seemed almost hopeless to try to keep the gullies in his fields from becoming larger and deeper. Each heavy rain washed more soil away. The first year his net income from the farm amounted to $385.30, considerably below the figure he had hoped to realize. But 10 years have now passed since he bought the farm—last year his net income was $2,075.93, an increase of $1,690.63.

Butler's progress in making his farm a paying proposition is best revealed by two sets of figures, one covering the net income for the first 5 years on the farm and the other the last 5 years. The first 5 years his net income rose from $385.30 to $1,098, largely as a result of sheer doggedness to make the farm pay. The second 5 years the net income mounted from $1,432.17 to $2,075.93—and it was during that period that he switched to conservation farming.

This farmer tells us that as a result of conservation farming the quality of his tobacco has been improved and the annual yield per acre raised from 800 to 1,200 pounds. He says also that this improvement in yield and quality is largely due to planting tobacco on the contour and following a 4-year strip rotation. The first and second years he grows ryegrass as a cover crop following tobacco; the third year he grows small grain in the strip which is later planted to redtop grass; and the fourth year the strip is in redtop from which he harvests hay. By employing this rotation and alternating it in contour strips, he manages to keep his tobacco land in a sod crop at least half the time—a system designed to cut down soil and fertility losses from erosion.

Amos Butler does not depend upon tobacco for all his income. His AAA allotment provides for putting 7 acres in tobacco, leaving the remainder of the cropland for grain and hay. When he first began farming he had only a "plug" mule and no cows. Now he has two well-fed mules; he milks two cows, and is raising two heifers for additional milking. Formerly he realized little income from his dairy and poultry products, but in late years he has been receiving $600 to $800 from these

[1] State conservationist, Soil Conservation Service, Raleigh, N. C.

sources. Last year Mrs. Butler canned 300 quarts of vegetables and fruits grown on the farm for home use, and late in winter 15 quarts of meat. This year she expected to put up more canned goods. The Butlers always have an ample supply of home-grown pumpkins, peas, onions, sweet potatoes, Irish potatoes, and other vegetables.

Although he seldom hires help and has no tenants on his farm, Butler never allows himself to get behind in his work. For one thing he is quite methodical—he plans his season's work several weeks ahead instead of following a day-by-day routine. Moreover, he conscientiously follows the detailed conservation plan developed for his farm by the Dan River Soil Conservation District which includes Stokes, Rockingham, and Caswell Counties, and a large part of Person County. His farm is in Rockingham County, and if a baffling conservation problem arises he loses little time in consulting the local Soil Conservation Service technician assigned to the Dan River district.

Soil conservation has become a gospel of the land to Butler. After each heavy rain he may be seen going over his farm checking on how his terraces have held and making any repairs that may be necessary. He frequently participates in group meetings sponsored by the district for developing conservation plans for farmers. Hundreds of farmers who have visited his farm now have some of the same conservation measures on their farms that Butler follows.

This year the Butlers are making every effort to grow more food and produce more dairy and poultry products—they are fully aware of the role food is playing in the war. They take an active part in community meetings on victory gardens, local scrap iron campaigns, and in programs sponsored by the Dan River district to help farmers increase production.

Today with the Nation at war Butler feels that conservation farming is more important than ever before. As he remarked, every acre must be put to its best use and the land must be protected against erosion and kept in good condition. Idle or waste land has disappeared almost entirely from the Butler farm. For several years a small piece, about one-half acre, that formerly had been used as a county road in front of his home worried him considerably. This piece of land was badly gullied. He reworked it and today it is covered with a thick grass sod from which he cuts a considerable amount of hay. Last spring Butler cut all willows and brush from a 6-acre piece of bottomland and now he is converting it into pasture. He manages his 17-acre woodland on a sustained-yield basis so that he will have enough timber for future use as well as current needs.

Working closely with County Agent F. S. Walker and the AAA, Butler keeps detailed records on his farming operations. His operating expenses during the past 5 years increased 5 percent over the previous 5 years, but to him this is insignificant in view of the increased income he now receives from better yields and a more diversified type of farming. His payments from AAA have been more than sufficient to cover cost of installing the erosion-control and better land-use measures recommended

(Continued on p. 140)

This hay-producing strip in front of Butler's home was once a badly eroded, abandoned roadbed.

Butler cleared this six-acre lowland of brush last Winter, seeded it in the Spring. Soon it will be furnishing pasture for cows.

Checking his tobacco bed, Butler said, "I would rather have more plants than I need and give some away than not have enough."

"Son, if you ever go into farming, grow enough hay to feed your cows and mules"—good advice to the nine-year-old, Billy. Father and son are looking at hay grown on a meadow strip which winds over a long natural draw where gullies once dominated.

CHRISTMAS TREE FARMING

(Continued from p. 134)

whose soil had been allowed to wash away or deterioriate through lack of management—land identical to thousands of acres now lying barren, eroding, tax-delinquent, and economically parasitic.

These idle, weed-strewn fields now are planted and the woodland has been placed under management. Labor and equipment find full employment. Nearness to the anthracite region affords a ready market for mine material. Much of his harvest in timber is manufactured in his own sawmill and planer, and is used on the farm or sold to local markets.

Mr. Abraczinskas harvests 9,000 Christmas trees annually, and sells them mostly on a wholesale basis. He is building up his business to an annual sale of 60,000 trees, and says that his market would take 100,000 if he had them available. Dealers call at the farm with trucks for their purchases. The trees are divided into three grades, the two lower quality grades going to wholesale trade at prices ranging usually from 30 cents to $1.50 per tree. The higher grade product is retailed at the farm at from $1 up, with some, the large and well-formed trees, commanding a price of $4 or $5.

The general practice is to harvest trees within 6 to 8 years after planting. With the cultural treatment given, this results in compact, well-formed trees from 6 to 8 feet in height. A few smaller "table" trees are also sold. Mr. Abraczinskas says his markets call for Scotch pine almost entirely, with only a small percent of his sales being white and red pine, Norway spruce, Douglas fir, etc. He thinks that the bluish-green color and "bloom" on his Scotch pine, which is very attractive under electric lights, accounts for this preference. One of his problems is to develop Scotch pine with this desired color, rather than the yellowish-green common to the species.

Pruning terminals and laterals produced this typical Scotch pine Christmas tree.

Using inexperienced labor, and oftentimes young boys, he claims that each man plants up to 1,500 trees per man-day. He says that, incredible as it seems, this result is obtained by using a sub-soiler set at a 6-inch depth, and dragged along the approximate contour by a tractor, which loosens the soil but does not turn it over; this soil condition enables the planter to set the trees with his fingers—he uses no tools of any kind except his feet to stamp the loose dirt tightly about the roots. This last act, Mr. Abraczinskas says, is very important in that it removes all air space about the roots. The plantings have been highly successful, and apparent survival (checked by the authors) was at least 90 percent in all cases observed. The 1941 spring planting, when visited the following August, showed better than 95 percent survival.

A good Christmas tree must meet several important specifications, namely, proper size (height and breadth), color, and form (compact and well-balanced growth). There are, of course, other factors such as tenacity of needles in remaining on the tree, texture of needles, etc., which also influence the demand and grade, depending on the peculiarities of the particular market served. To obtain the above qualifications, Mr. Abraczinskas has developed and is perfecting the treatment described in the following paragraphs.

By observing each tree every year after planting he determines which of them need attention to develop balance and compact growth. His objective is to develop compact, full-formed trees. With this in mind, he uses an ordinary knife to cut off portions of the lateral and terminal shoots that appear to be gaining too much length. On Norway spruce this operation may be performed any time before the buds are set for the following year's growth, but on pine the shoots must be pruned just about the time the newly developed leaves in last season's buds have reached mature size. This results in the formation of many buds (as many as 17 were counted) on the tip of the severed shoot. If the cutting is done too late in the season, new buds fail to develop on the pine until the following year, and thus a season's growth is sacrificed.

In addition to inducing more branches in each whorl by cutting off the terminal, the pruning operation on laterals results in the development of additional shoots and contributes to the desired greater density of foliage. Since the maturity of needles and growth of each tree varies, this treatment becomes a matter of working with each individual tree and is undoubtedly a time-consuming operation. Repeated visits must be made to the same groups in order to reach all trees at the proper time. Nevertheless, by carrying on this tree-forming work, the percentage of salable trees is increased from 33 percent to 90 or 95 percent.

Regarding the practice, sometimes used, of leaving the lower whorl of branches on the stump of harvest trees for development into other trees, Mr. Abraczinskas' comment was that he didn't consider it worth while. He believes in "fillers," that is, replacing the harvested tree with a new plant.

Estimating his investment in Christmas tree culture 8 years after planting

(Continued on p. 142)

Grass Roots Conservation Training of AAA Committeemen

By Arthur W. Susott[1]

Georgia's 3,000 AAA county and community committeemen—all farmers—are stressing soil conservation at the grass roots as never before. They are telling their neighbors and other farmers they meet that it is a patriotic duty to put conservation on the land as quickly as possible. The committeemen have seen for themselves in soil conservation districts and elsewhere that well-rounded conservation programs on individual farms enable farmers to keep their land productive for raising large quantities of food and other farm products needed by Uncle Sam and his allies to win the war. Moreover, Georgia AAA committeemen are setting good, practical examples for their neighbors by doing a better conservation job on their own farms. Some have been cooperators of soil conservation districts for some time; others, wishing to go all the way in conservation farming, have applied to the districts in which they live for detailed plans for their farms.

This special wartime effort of AAA committeemen in Georgia to get more conservation on the land quickly, is largely the result of training meetings that the Soil Conservation Service and the Agricultural Adjustment Agency held this year throughout the State for the AAA committeemen. Naturally, close teamwork among the AAA and SCS workers in Georgia was required to complete the training work for the committeemen in 157 counties that had been scheduled from the first of the year to late in August. Conservation training programs for agricultural workers are also producing gratifying results in Alabama, Mississippi, and a number of other States in the Southeast.

From the beginning of the training work in Georgia, the AAA State Committee urged all committeemen to apply to their local soil conservation districts for complete conservation plans for their farms. The training meetings for all the counties in the State were completed by August 20, and now follow-up meetings with the county and community committeemen are being held to talk over means of making the farms models of sound conservation farming. The Coosa River Soil Conservation District reports that complete conservation plans have been developed for farms of all committeemen in the four counties that form the district.

At each training school it was pointed out that too many Georgia farmers still are not making use of all the available AAA soil-building assistance, and that this assistance can be used to an advantage in establishing a complete soil conservation program on the farm. The AAA committeemen attending the training meetings gathered around two miniature models of a farm. They first studied the model showing the farm before conservation measures were applied. Then after a discussion of changes in land use and suitable erosion-control measures which the committeemen themselves might apply if they owned the farm, a district conservationist of the Soil Conservation Service uncovered a companion model of the same farm with the conservation measures already established.

Of course, not all the committeemen agreed on all points of the conservation program portrayed by the model, and some of their suggestions no doubt would improve the plan. But on two important points all the committeemen agreed: first, that more Georgia farms need conservation if they are going to do the war job expected of them; and second, that a larger number of those simple conservation practices that the farmer himself can establish on his farm this year should be emphasized. Most of these simple practices, listed in the 1942 AAA handbook for Georgia, are eligible for soil-building payments.

Typical of the AAA committeemen training meetings in Georgia was the one held late in July, at Americus, for the committeemen from Schley and Sumter Counties. During the afternoon the committeemen visited the 200-acre farm of H. J. Woodruff, a cooperator of the Lower Chattahoochee River Soil Conservation District—most of the other training meetings also provided visits to farms of district cooperators.

Unfortunately, rain prevented the committeemen from going over the Woodruff farm, but in their discussions with the owner they learned that his gross income will be at least $3,000 greater this year than it was in 1937 when he first moved to the farm. This farm is regarded as one of the best managed farms in Sumter County—a striking contrast because when Mr. Woodruff moved on it in 1937 he found the topsoil gone from most of his cropland and gullies beginning to form in a number of fields.

The committeemen were impressed by Mr. Woodruff's results from conservation farming. He said that his cotton yield has increased from 300 to 450 pounds of lint cotton an acre on his 40-acre AAA allotment. At a market price of 19.7 cents a pound,

[1] Chief, regional division of information and education, Soil Conservation Service, Spartanburg, S. C.

Mr. Woodruff figures the increase in yield adds $1,182 to his annual income.

His corn yield since he took over the farm has climbed from 20 to 40 bushels an acre. He plants 55 acres to corn each year, and the increase in yield, at 98 cents a bushel, means $1,078 more annually on the corn crop.

Likewise, the increase in oats and wheat yields are providing more income. Mr. Woodruff now raises 60 bushels of oats to the acre as compared to 40, and 25 bushels of wheat as compared to 15. On the 30 acres he plants to oats the increase in yield is worth $300, when computed at 50 cents a bushel. The extra income from a better wheat yield he figures at $172.50, based on a planting of 15 acres and wheat selling for $1.15 a bushel.

These increases in crop yields, Mr. Woodruff explained, resulted largely from contour farming, terraces, and improved crop rotations calling for greater use of such soil-building legumes as Kobe lespedeza. Mr. Woodruff was one of the first farmers in Sumter County to grow Kobe lespedeza, and last year he harvested 5,000 pounds of seed from a 10-acre field that had been planted in wheat the year before. From the sale of Kobe seed he realized $500, or an average of $50 an acre.

One of the first jobs Mr. Woodruff completed after receiving his conservation plan from the Lower Chattahoochee River district was to establish a system of terraces and water-disposal areas so that the run-off following rains could be handled with a minimum of soil washing. He was very much displeased because of the rain on the day the committeemen visited his farm, as he had wanted to show them his 12 acres of permanent pasture. This piece of lowland was considered wasteland when he moved to the farm—it stayed wet most of the time and even after a drainage ditch had been dug the land would not produce good field crops. The district conservation plan for his farm recommended that this particular piece of land be developed into a permanent pasture. Mr. Woodruff prepared the land, applied superphosphate at the rate of 400 pounds an acre, and sowed a mixture of Kobe and Korean lespedeza, Dallis grass, and white Dutch clover. Bermuda grass already was growing well on the land. Today, the pasture has a thick sod, and Mr. Woodruff regards it as the best piece of land on his farm. With better pasture for grazing and growing more hay on his farm, Mr. Woodruff now has 17 head of beef cattle. When he moved to the farm he had only 3 cows.

S. E. Statham, Sumter County farmer and chairman of the Georgia Agricultural Conservation Committee, conducted the Americus meeting and emphasized the need for farmers to use more soil-building practices as a means of keeping the farm land productive, especially in view of almost certain shortages of fertilizer and other materials.

"It's going to take a lot of food to feed our soldiers, our workers in war plants, our allies, and starving Europe after the war," Mr. Statham said. "For that reason, soil building is the patriotic thing to do, and the farmer who deliberately neglects to do this is as much a slacker as the man who dodges the draft."

Mr. Statham, also a cooperator of the Lower Chattahoochee River Soil Conservation District, is firmly convinced that the Georgia AAA program can greatly accelerate the work of the soil conservation districts in his State, especially if the AAA committeemen lend a helping hand in getting the simple practices established in advance of the more complex practices requiring technical assistance.

"You can help the Soil Conservation Service technicians in the districts to reach more farmers," Mr. Statham said at the Americus meeting, "by getting the farmers to apply the simple practices. For instance, pastures can be brushed and improved by reseeding and fertilizing while fertilizer is still available, kudzu and trees can be set out, winter and summer cover crops can be planted, and so on. This is some of the preliminary work that can be done and needs to be done quickly.

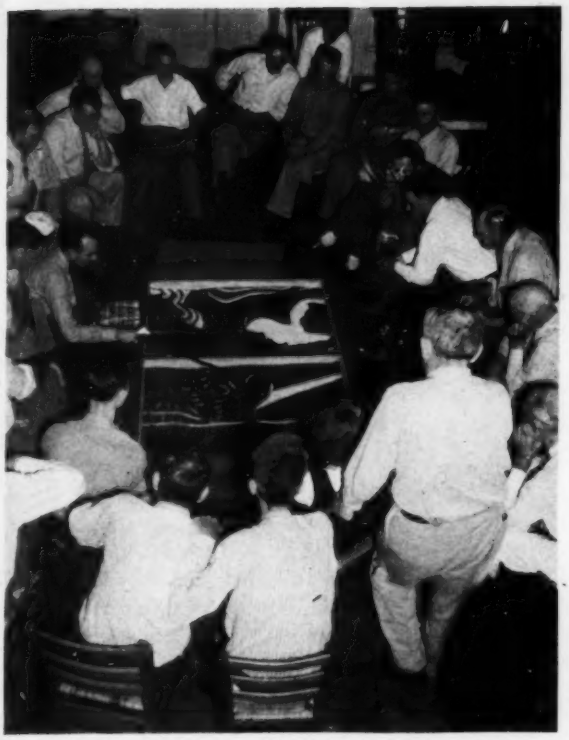
"I urge you committeemen if you don't have district plans on your farms to get them. Then get your neighbors and other farmers interested.

"The AAA program is designed to help farmers get more conservation on the land. As you well know, there are quite a few soil-building practices that count toward earning a soil-building allowance. If the farmer is interested in establishing these practices, show him how he can qualify for AAA payments which will go a long way toward defraying the cost.

"In fact, take that farm model there. It is an actual farm in Taylor County. The farmer is a cooperator of the district and the AAA program. He used the AAA payments and spent only $30 extra to get those conservation measures on his farm."

George Roundtree, Georgia field officer for AAA, gave a clear picture of the importance of conservation farming in time of war. He predicted that as the war goes on farming will become increasingly difficult as a result of a greater scarcity of labor and serious shortages of fertilizer, equipment, and other materials.

"We're in a war that probably will not be over soon," Mr. Roundtree said. "We are going to be



At meetings held throughout Georgia, AAA county and community committeemen studied farms and visited districts. Here W. C. Huggins, district conservationist of the Middle Western Ocmulgee soil conservation district, points to a model of a Georgia farm in need of erosion control. Just beyond is another model showing conservation measures established on the same farm.

called on for more food and feed, and we will probably be asked to meet these demands with less and less fertilizer as time goes on."

Pointing to the farm model showing the condition of the Taylor County farm before conservation farming, C. L. Veatch, district conservationist of the soil Conservation Service, showed how erosion prevents the farmer from contributing fully to the war effort. Then turning to the other farm model, Mr. Veatch removed a cover and revealed what at first looked like an entirely different farm. However, it was the same farm and for every erosion problem on the first model the solution was shown on the companion model in the form of established conservation measures.

"The use of these practices such as improved pastures, kudzu on critical slopes, terraces, strip cropping, rotations including summer and winter legumes and so on, is helping farmers produce more beef, pork, milk, and other products needed," Mr. Veatch said. "Farmers also find that by using contour cultivation, better rotations, and other practices they can grow good crops of peanuts and soybeans with little loss of soil."

When Mr. Veatch finished his discussion the committeemen huddled more closely around the farm models and for a half hour kept up a steady flow of questions. For each question raised on the advisability of using a particular soil conservation measure on the Taylor County farm, Mr. Veatch explained in detail that the selection of the measure was based primarily on a land use problem that had to be remedied, and in developing the conservation plan with the farmer, his food, feed, and other economic requirements, including plans for the future as well, had to be considered. Mr. Veatch said no two farms are alike, and neither are their food and feed requirements alike. Therefore, he added, the detailed plan for conservation must dovetail in each individual case with the present and future requirements of the farmer.

"However, there is no need for the farmer to delay establishing the simple conservation practices before applying to the district for a complete plan," Mr. Veatch said. "He should establish all of the simple practices such as improving his pasture and use of winter and summer legumes as quickly as he can. Furthermore, his AAA soil-building assistance will largely pay the out-of-pocket cost of carrying out these practices."

The Americus meeting was one of the last to be held in the State, but all of the training meetings followed the same pattern rather closely. State AAA officials were particularly pleased with the interest the committeemen displayed in the farm models and in the farms they visited. Twenty sets of farm models that the Soil Conservation Service had built for educational meetings in districts were used at training meetings.

"The AAA in Georgia is greatly indebted to the Soil Conservation Service men who helped put the training meetings across," said T. R. Breedlove, State AAA administrative officer. "Fortunately, the district program is well advanced in Georgia and that helped us a great deal. It enabled the committeemen to visit farms cooperating with the districts and to see for themselves just how important conservation is in wartime."

The folklore of American history hands down to us no legend more full of human interest than the story of Johnny Appleseed, that benign character who left his monuments of apple trees scattered through the Ohio valley.

(Continued from p. 133)

means a big change in the way we've been doing things. It'll take time to work it all out." He stopped and waited for Mary—he could see she was ready to speak.

"There's Cousin Sue, John. She is having a tough time on that poor hill farm since Walt was killed, and Jane and Tom have so far to go to school. Their lease will be up March 1st anyhow. Remember how Walt wanted you to help them find a better farm for rent? Tom is 12 now and tries to do a man's work. With Henry leaving we'd have a good house and garden for them. I'll write Sue tomorrow, and I'll bet anything she and the children will come. It will help them, and it will help us through this emergency."

"You've said enough, Mary. We're a big day nearer winning this fight. A little planning ahead means a lot, doesn't it?"

RUNNER PEANUTS

(Continued from p. 126)

As a result of the development of this crop in the soil conservation district program, there were numerous opportunities this fall, particularly in the Wiregrass district, to collect yield data where peanuts were interplanted with blue lupine that was later harvested for seed.

In the fall of 1941, Albert Parrish of the Headland Community in Henry County, planted one-half of an 18-acre field to blue lupine, leaving spaces every 3 feet. Runner peanuts were planted in the spaces in March 1942, about 2 weeks earlier than normal planting time. The lupine was combined for seed when the peanuts were about "half finger" high, and he harvested 6,400 pounds of lupine seed, worth 10 cents a pound, from the nine acres. This represented a return of more than $70 an acre from the lupine seed. Several other farmers also used this method.

Although it would not be possible to obtain yield data on the peanuts until later in the fall, by early September the peanut vines where lupine seed were harvested had apparently made as much growth as on the remainder of the field where no lupine was grown. Mr. Parrish intended to plant the entire field to lupine after the peanuts were harvested this fall.

"In the past, we never gathered peanuts 2 years in succession on the same land," Mr. Parrish says. "If we planted them the second year, we hogged them off. But if we are going to get the oil we need to help win this war, we're going to have to forget about rotation for the duration. That means we are going to have to use a cover crop or ruin our land."

W. B. Oats, another farmer of the prosperous Headland Community, where land sells at around $100 an acre, puts it more forcibly. "You just butcher the land when you take two or three crops of peanuts off, without protecting the soil," he says. "Why, if we go on planting peanuts without cover, this land won't be worth $7 an acre."

It is to find out just how such a disaster can be avoided that the field studies now under way are being carried out on an extensive scale. Results obtained are expected to provide definite information to replace the traditional beliefs as to what can and what cannot be done, particularly with reference to cover crops, under conditions of hog and peanut production in the runner peanut section.

This information, which has become vitally important with the greatly expanded acreage of peanuts to meet war needs, will furnish a sounder conservation program in the runner peanut section after the war.

ONCE GULLIED FARM NOW MONEY MAKER

(Continued from p. 135)

in the conservation plan for his farm by the Dan River Soil Conservation District.

Naturally, Mr. and Mrs. Butler are proud of their farm, no doubt partly because they had so many obstacles to overcome at the beginning. They are a busy couple, but they always find time to show their farm to visiting farmers.

"I don't mind showing my farm to other farmers even if it does take a little time," remarked Butler. "I feel that if the conservation work I have done will help them to do a better job of farming, my time will have been well spent. And today, when we have to produce more food for our allies and ourselves, we simply must keep our land in the best shape possible and make every acre do its best."

HOW MAGAZINE DISTRICT MAINTAINS EQUIPMENT

BY HAROLD J. BUTLER[1]

This plan for handling equipment was developed by the Magazine Soil Conservation District, Arkansas, as a result of experience. Maintenance of equipment owned by and loaned to the district had been a serious problem until November 1941, when the new plan was adopted by the supervisors.

The new plan has been in effect for more than six months, and because it has proved most successful it is presented here for the information of other districts with a similar problem.

Equipment granted the Magazine Soil Conservation District Supervisors consists of long-wing Kelly plows, hillside plows, fresnos, one Henkel lespedeza combine, and one or two Texas terracers, numbering in all less than fifty pieces. It should be noted that this equipment is of a simple type requiring a minimum of upkeep and maintenance.

The plan, as adopted by the supervisors, carries an annual charge of $2 payable in advance before any piece of equipment can be used on the cooperator's farm. This fee covers the use of any or all pieces of equipment available to the farmer for a period of one year only, the year ending on November 1 of each year. If the farmer performs no work or prefers not to use the district equipment, he does not pay any maintenance fee for that year. The maintenance charges are used for keeping the equipment in good working order, and if at the end of the year there is enough money left new equipment will be purchased. As it now appears several pieces of equipment will be purchased in November 1942 if it is available.

The supervisors also require that any cooperating farmer owing the district for use of equipment before November 1942 must pay up his old account before he can use the equipment again.

The equipment is repaired and maintained locally by blacksmiths and mechanics, and new parts are purchased by the supervisors, all of which is paid for each month at the time of the regular monthly meeting.

The equipment is handled by assistant supervisors in the different communities, with each assistant responsible for collections of fees and the returning of damaged or worn pieces to headquarters of the supervisors for repairs. These assistant supervisors have free use of equipment on their own farms as reimbursement for their time and the responsibility of handling the equipment. Through the use of such assistants in each small community a minimum amount of expense is involved in transporting, hauling, and handling the different pieces. However, if one community is not making full use of the equipment, certain or all pieces are moved to a community that will make full use of it. In this way the equipment is kept at its optimum working capacity.

If every cooperating farm uses the equipment once this year, an amount equal to twice the initial cost of the equipment will be received by the district, or approximately $1,150 in 1942.

This plan of handling equipment is self-liquidating, and very little bookkeeping is required because the books are closed each year on November 1 and a new set is started, with no old accounts and a new fee assessed to those who require use of the equipment during the next 12 months.

The main difficulties with the old plan were that the fee was not payable in advance, but was payable quarterly at the rate of 50¢ per quarter if the equipment was used during the quarter, and that the 50¢ was not enough to repair and overhaul it. Hence, nearly all users of equipment did not reimburse the district for equipment usage and no money was available for upkeep and repairs.

Up to the present, no trouble has developed from this new plan. The equipment is all in excellent working order and the farmer who uses it is assured that the next farmer must pay his share of the upkeep and repair. The equipment has been used as much or more than during any previous similar period, nor do the supervisors expect that the plan now in effect will curtail the use of district equipment. Actually more money has been received by the district for equipment usage during the six months under the new plan than in the whole three years under the old plan.

"The world does not have too much productive soil. The areas of really good land—high quality, food producing land—are limited. In terms of the population this land must support, I am not altogether sure that we are not approaching a world-wide shortage of Grade A, food producing land. Certainly the war is not helping to improve the situation with respect to soil resources."—*H. H. Bennett.*

[1] Engineer, Magazine Soil Conservation District, Arkansas.

BOOK REVIEWS AND ABSTRACTS

by Phoebe O'Neall Faris

FIELD CROPS AND LAND USE. By Joseph F. Cox and Lyman Jackson. New York and London. 1942.

About 5 years ago Cox and Jackson dedicated their "Crop Management and Soil Coservation" to the future farmers of America, thus designating the volume as a text for use by agricultural schools. This new book, built somewhat on the same plan, is more extensive and detailed in treatment and is of course pointed up to war and peace demands upon the agriculture of the nation. It is in fact dedicated to "the growing army of American farmers who plan and execute their programs of efficient crop and livestock production so as to improve the fertility of the soils in their charge, provide for the Nation's needs during times of peace and war, and assure the onward course of our country toward ever-increasing prosperity and enhanced freedom."

Thus, by the authors' intent, their new work on farming is for farmers. Since it draws together and molds into one piece the important results of our many agricultural stations, our land-grant colleges and the bureaus of our Department of Agriculture, it should serve, for some years to come, as a valuable single course for the millions of farmers and agricultural technicians who are working with grim determination to put agriculture on a sound basis for all time. To stop misuse of the soils, improve agricultural opportunities for farm people, and at the same time produce the food and other crops required by tremendously expanded war demands is no small job in a country the size of the United States. A few good books such as this can help more than a million pamphlets that carefully avoid giving the farmer and agricultural specialist any workable information.

Upward of 40 crops are treated individually as to their soil, climatic, and cultivation requirements; their effect upon the soil; their place in rotations and their regional adaptations; availability of seed; harvesting and curing and processing; nutritional, fiber, or medicinal values; their soil-conserving or soil-depleting qualities. The "corn" chapter is the most extensive of any dealing with a single crop, but the small grains, the legumes, tobacco, cotton, and the root crops are treated in a detailed fashion with special emphasis on recent experimental findings regarding best methods of production without permanent loss of soil fertility. A chapter on soybeans and field beans is especially interesting in the light of tremendous wartime expansion of this crop and several quite new discoveries which should aid greatly the soybeans-with-soil-conservation efforts of many growers. A most revealing chart is given to show the hundred or more uses to which soybeans were being put only a few years ago—it would be interesting to see this chart brought up to date by wartime values!

The whole book, almost 500 pages, is built upon the premise that with correct soil and water conserving methods, and proper crop management, American agricultural production can be maintained to meet any and all demands. A chapter on the agriculture of the Nation and the Nation's prosperity and strength should be read by farmers; it is a brief but clear statement of the effect of the war program upon our agriculture and it should help greatly in clarifying confusion regarding the part of governmental action agencies now taking a heavy responsibility in the greatest agricultural improvement program the world has ever known.

There is a chapter on classifying crops, and here are two new classes definitely added to crops for food, fiber, pasturage, medicinal purposes, etc.—they are soil-building or soil-conserving crops as contrasted to soil-depleting crops. There are chapters on crop management for conservation; regional and subregional types of farming as related to crop adaptations; crop rotation planning; soil fertility improvement practices; plowing and cultivating under the soil-conservation system; cover and green-manure crops; pasture and meadow management for cattle and for hogs; the specialized grassland agriculture of our great livestock producing areas; weed and insect and crop disease control; seed and seed growing and marketing; the live-at-home farm with special reference to production for improved diet; crops for wildlife, including the farm fish pond. All these chapters are "workable" chapters—they can be used as "tools" by the farmer as he plans his wartime and post-war production, and thinks far ahead into the future of a great democracy now engaged in helping to win the greatest and most terrible war of all ages.

CHRISTMAS TREE FARMING

(Continued from p. 136)

(harvest age), Mr. Abraczinskas placed it at $50 per acre. On the basis of 2,000 to 2,500 trees per acre, he figures his net return at the end of the 8-year period at $900 per acre.

It may interest foresters to know that for 20 years this man has been practicing control of the white pine weevil in his plantations through care and encouragement of the weevil parasite. Affected shoots are pruned, placed in barrels covered with fine screen at each end, and left scattered through the plantation. The weevils, unable to escape through the screen, die in the barrel, whereas the tiny parasites multiply and escape through the screen to carry on their work. Mr. Abraczinskas claims this practice to be very effective.

Another point of interest is that his forestry practice extends to the scientific development of valuable strains of nut trees—this on a small scale, but of sufficient value to have attracted specialists of Nation-wide fame, including J. Russell Smith of "Tree Crops" fame.

"We must resolve now to keep our industrial machine running at full blast when peace comes. If we succeed, there will be plenty of markets for full farm production here at home, as well as in the parts of the world prostrated by war. If we fail, the bottom will drop out of things, not only for the newly settled farm families, but for all other Americans as well."—*Secretary Wickard.*

For REFERENCE

Compiled by ETTA G. ROGERS, Publications Unit

Field offices should submit requests on Form SCS–37, in accordance with the instructions on the reverse side of the form. Others should address the office of issue.

OFFICE OF INFORMATION
U. S. DEPARTMENT OF AGRICULTURE

American Tobacco Types, Uses, and Markets. Circular No. 249. Agricultural Marketing Administration. June 1942. 30¢.[1]

Cooperative Tests of Sweetpotato Varieties, Introductions, and Seedlings for Starch Production and Market Purposes. Circular No. 653. Bureau of Plant Industry. September 1942. 10¢.[1]

Experiment Station Research on War Problems in the Home. Miscellaneous Publication No. 503. Office of Experiment Stations. September 1942. 10¢.[1]

Experiments Toward the Control of the Take-All Disease of Wheat and the Phymatotrichum Root Rot of Cotton. Technical Bulletin No. 835. Bureau of Plant Industry. October 1942. 10¢.[1]

Further Studies on the Removal of Spray Residues from Eastern-Grown Apples. Technical Bulletin No. 828. Bureau of Plant Industry. August 1942. 10¢.[1]

Industrial Fumigation Against Insects. Circular No. 369. Bureau of Entomology and Plant Quarantine. August 1942. 10¢.[1]

Irrigation of Sugar Beets Grown for Seed. Circular No. 658. Bureau of Plant Industry. August 1942. 5¢.[1]

Market Classes and Grades of Livestock. Department Bulletin No. 1360. Agricultural Marketing Administration. Revised August 1942. 10¢.[1]

The Marketing of Greens. Circular No. 644. Agricultural Marketing Administration. April 1942. 15¢.[1]

Mineral-Oil Treatment of Sweet Corn for Earworm Control. Circular No. 657. Bureau of Entomology and Plant Quarantine. August 1942. 5¢.[1]

More Food Through Conservation Farming. Farmers' Bulletin No. 1909. Soil Conservation Service. September 1942.

Morphology and Composition of Some Soils of the Miami Family and the Miami Catena. Technical Bulletin No. 834. Bureau of Plant Industry. September 1942. 10¢.[1]

Plant-Growth Regulators. Miscellaneous Publication No. 495. Bureau of Plant Industry. 1942. 20¢.[1]

Potato Production in the Southern States. Farmers' Bulletin No. 1904. Bureau of Plant Industry. August 1942.

Protecting Market Sweet Corn from the European Corn Borer. Leaflet No. 225. Bureau of Entomology and Plant Quarantine. August 1942.

Snap Beans for Marketing, Canning, and Freezing. Farmers' Bulletin No. 1915. Bureau of Plant Industry. September 1942.

Velvetbeans, Cottonseed Meal, and Peanut Meal as Protein Feeds for Fattening Steers in the Coastal Plain Area. Technical Bulletin No. 831. Bureau of Animal Industry. July 1942. 5¢.[1]

War and Farm Work. Miscellaneous Publication No. 492. Bureau of Agricultural Economics. May 1942. 10¢.[1]

MISCELLANEOUS FEDERAL BULLETINS

The Americas: Lands of Promise. G–116. Agricultural Adjustment Agency, U. S. Department of Agriculture with the cooperation of the Office of Foreign Agricultural Relations. July 1942.

The External Trade of the Pacific Northwest. Pacific Northwest Regional Planning Commission, National Resources Planning Board, Portland, Oregon, with the cooperation of the Bonneville Power Administration and Northwest Regional Council. June 1942. proc.

Farming New Land in the Yazoo-Mississippi Delta: Problems of Small, Family-Sized Farms in the Backwater Area. F. M. 35. Bureau of Agricultural Economics. June 1942. mm.

Forest Fire Fighters Service: Regulations, Purpose, Organization, Duties, Training, How to Join. Office of Civilian Defense. 1942.

The Hoch-Smith Resolution: A Study of a Congressional Mandate on Transportation. Agricultural History Series No. 4. Bureau of Agricultural Economics. July 1942. proc.

Problems and Institutional Factors Affecting Land Use in a Northwest County. Bureau of Agricultural Economics. June 1942. mm.

Reclamation Handbook: A compendium of Information on the Reasons for and the Development, Operations, and Results of Conserving Water and Reclaiming Land in the Western United States. Conservation Bulletin No. 32. Bureau of Reclamation, U. S. Department of the Interior. 20¢.[1]

State and Local Government Finance in Wartime. The Farmer and the War, No. 4. U. S. Department of Agriculture. 1942.

Strength is in the Land. G–114. Agricultural Adjustment Agency. July 1942.

STATE BULLETINS

Bronco Grass (Bromus tectorum) on Nevada Ranges. Bulletin No. 159. Agricultural Experiment Station, University of Nevada, Reno, Nevada. April 1942.

Dried Citrus Pulp in Beef Cattle Fattening Rations. Bulletin No. 613. Agricultural Experiment Station, Texas Agricultural and Mechanical College, College Station, Texas. July 1942.

Effects of Crop Acreage Control Features of AAA on Feed Production on 11 Midwest States. Research Bulletin No. 298. Agricultural Experiment Station, Iowa State College of Agriculture, Ames, Iowa. April 1942.

Financial Management Analysis of Farmers' Cooperatives in Michigan. Special Bulletin No. 315. Agricultural Experiment Station, Michigan State College, Last Lansing, Mich. May 1942.

Harvesting Seed of Vetches, Winter Peas, Crimson Clover, Ryegrass. Extension Bulletin No. 597. Oregon State College, Corvallis, Oregon. June 1942.

Liming Iowa Soils. Bulletin P–45. Agricultural Experiment Station, Iowa State College, Ames, Iowa. May 1942.

Methods of Computing a Regression of Yield on Weather. Research Bulletin No. 302. Agricultural Experiment Station, Iowa State College, Ames, Iowa, with the cooperation of the Agricultural Marketing Service, U. S. Department of Agriculture. June 1942.

Propagation of a Rapid Growing Semi-Evergreen Hybrid Oak. Bulletin No. 612. Agricultural Experiment Station, Texas Agricultural and Mechanical College, College Station, Texas. May 1942.

Selective Service for the Land. Circular No. 219. Clemson Agricultural College, Clemson, South Carolina, in cooperation with Extension Service, U. S. Department of Agriculture. July 1942.

Soil and Field-Crop Management for Northwestern New York. Bulletin No. 777. Agricultural Experiment Station, Cornell University, Ithaca, N. Y. March 1942.

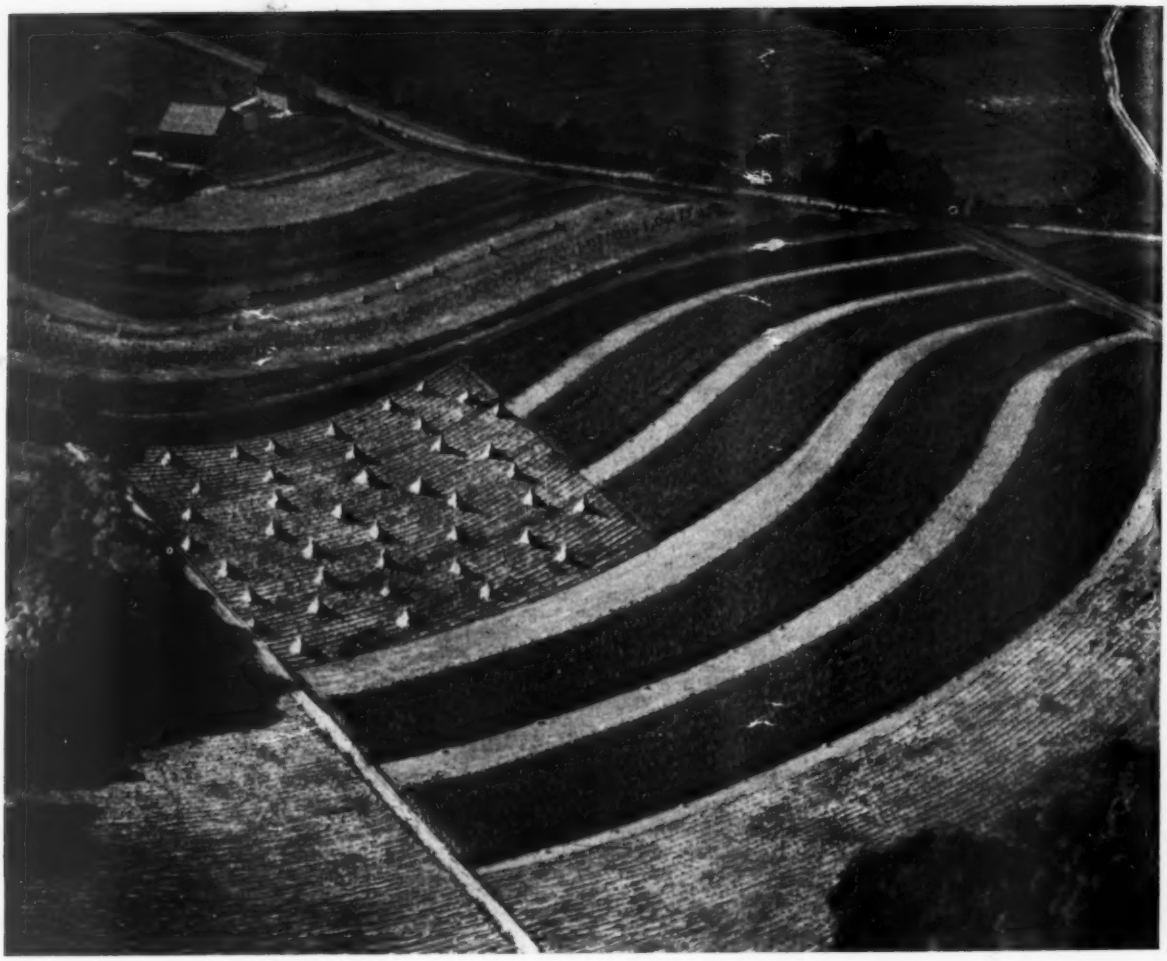
Soybean Production in Iowa. Bulletin P–30. Agricultural Experiment Station, Iowa State College, Ames, Iowa. March 1941.

Sugarcane Silage, Shocked Sugarcane and Carpet Grass as Roughages for Wintering the Beef Herd. Bulletin No. 373. Agricultural Experiment Station, University of Florida, Gainesville, Fla. July 1942.

Types of Farming in Western North Carolina. Extension Circular No. 259. Agricultural Extension Service, University of North Carolina, Raleigh, N. C. June 1942.

What Farmers Say About Soil Conservation. Bulletin No. 2. Maryland State Soil Conservation Committee. Extension Service, University of Maryland, College Park, Md. April 1942.

[1] From Superintendent of Documents, U. S. Government Printing Office, Washington, D. C.



Symbolic of the conservation work of millions of farmers who are waging the battle of production, is this composite of views from Pennsylvania and Texas.

Corn shocks on the contour are the stars. The broad stripes are strip crops of corn and hay planted on the level, around the slope.

This photographic depiction of "Old Glory" is a reminder of the importance of protecting the land for the freedom of which our soldiers and sailors are fighting. Through conservation measures American farmers are also increasing yields at a time when food and fiber are as urgently needed as gunpowder.

Keep this stirring conception in mind, as you press the idea of contour farming this winter.

PUBLIC LIBRARY
JAN 4 1943
DETROIT

U. S. GOVERNMENT PRINTING OFFICE · 1942